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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/644,034

08/20/2003

In-Duk Song

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EXAMINER

KIM, RICHARD H

ART UNIT

PAPER NUMBER

2871

MAIL DATE

DELIVERY MODE

05/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/644,034

Applicant(s)

SONG, IN-DUK

Examiner

Richard H. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,8-10 and 13-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,8-10 and 13-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1-4,6, 8-10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujioka et al. (US 2002/0163615 A1) in view of Matsumoto et al. (US 2002/0131003 A1) and Kondo et al. (US 5,737,051).

Referring to claims 1, 3, 4, 6, 8, 10 and 13, Fujioka et al. discloses a device and method comprising first and second substrates (102, 101) having an array region and a sealant region along a periphery of the array region (103), wherein the array region includes a plurality of pixel regions defined by a plurality of gate line (4) and data lines (8) on the second substrate; and the sealant region includes a plurality a gate pad (6) and data pads (2) at an end of the gate and data lines; a sealant in the sealant region attaching the first and second substrate (103), wherein the sealant (103) is located over the gate and data pads; a single metallic black matrix (105) formed in a sealant region that extends into the array region of the first substrate; a color filter (106-108) on the single metallic black matrix extending into the array region from the sealant region; and a liquid crystal layer (110) between the first and second substrates.. However the reference does not disclose an organic layer on the color filter in the array region, the organic layer covering at least a portion of the black matrix to shield an electric field in the array region, wherein the organic layer is formed in the array region and the sealant region and is in direct contact with the

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metallic black matrix and the sealant; and a common electrode and a pixel electrode on the second substrate.

Matusmoto et al. discloses a flattening film (204) on the color filter in the array region, the organic layer covering at least a portion of the metallic black matrix, wherein the organic layer is formed in the array region and the sealant region and is in direct contact with the metallic black matrix and the sealant; and that the common electrode (111) and the pixel electrode (113) are on the second substrate. Kondo et al. discloses organic flattening film on the color filter (col. 10, lines 55-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ an organic film on the color filter, wherein the organic layer is formed in the array region and the sealant region and is in direct contact with the metallic black matrix and the sealant since the “organic film can be used with ease as the orientation film simultaneously because there is no need to provide an inclination angle. Hence, it becomes possible to simplify the process and to decrease the cost” (Kondo, col. 10, lines 55-65).

Furthermore, as to the limitation “to shield an electric field in the array region”, it has been held that the claimed limitation is met if the intended use does not require a structural difference.

Matsumoto et al. discloses the claimed structure, therefore the intended use limitation is met.

Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made for the common electrode and the pixel electrode to be on the same substrate since in-plane switching LCD's improve features such a viewing angle (Matsumoto et al., paragraph 4).

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Referring to claims 2 and 9, Fujioka et al. discloses that the black matrix is made of Cr (paragraph 103).

3. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujioka et al. and Kondo et al. in view of Song et al. (US 6,894,753 B2).

Fujioka et al. and Kondo et al. disclose the device previously recited, but fails to disclose that the black matrix extends over at least one thin film transistor in the array region.

Song et al. discloses that the black matrix (700) extends over at least one thin film transistor in the array region.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the black matrix to extend over at least one TFT in the array region since one would be motivated to prevent light leakage between pixels.

Response to Arguments

4. Applicant's arguments filed 2/22/07 have been fully considered but they are not persuasive.

5. In response to Applicant's argument that Matsumoto fails to teach that "the organic layer is formed in the array region and the sealant region", Examiner respectfully disagrees. Matsumoto discloses in paragraph 0167 that the contact hole 206 is formed in the flattening film 204. As shown in Figure 4, the contact hole 206 is formed in the sealant region 12. Since the

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contact hole is formed in the flattening film 204, it follows that the flattening film 204 is formed in the sealant region.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H. Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RHK

Richard H Kim
Examiner
Art Unit 2871


David Nelms
Supervisory Patent Examiner
Technology Center 2800